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REPORT ON EUMETSAT TRAINING ACTIVITIES

The document describes the status and future plans for training in satellite meteorology provided by EUMETSAT and the Centres of Excellence (CoE) in Africa, the Middle East and Europe.

CGMS XXXVI is invited to note the current status and future activities for satellite training provided by EUMETSAT and Centres of Excellence in WMO RA I, RA II and RA VI.

Report on EUMETSAT Training Activities

1 INTRODUCTION

In June 2008 the third 5 years EUMETSAT Training Plan (2009 – 2013), had been approved by the EUMETSAT Council. Like before, in this plan the EUMETSAT Council tasks the User Service Division Training team to conduct a range of training activities in Europe, Africa, the Arabian Gulf and also in parts of South America. Also included within this Plan are the EUMETSAT contributions to WMO Virtual Laboratory (VL).

In addition the EUMETSAT Council also approved the EUMETSAT long-term (20 years) training strategy which puts the EUMETSAT training activities on a solid long-term basis. Both documents define the scope of EUMETSAT training activities in the years to come and confirm the continuation of EUMETSAT contributions towards VL activities.

2 THE CENTRES OF EXCELLENCE

2.1 IMTR, Nairobi

During 2007 the EUMETSAT Satellite Application Course continued to be conducted at IMTR. In additional to this regular two-week event, an additional week was organised for Regional Focal Group (RFG) activities. ASMET team members from IMTR continued their work with members coming from other CoEs on the development of the ASMET5 module, which is expected to be ready for use by the end of 2008. A new member from the IMTR training team, Mr Ignatius Gitonga, has joined the ASMET effort. A main concern at IMTR is the access to the internet and the maintenance of the training laboratory. Additionally, training using real time satellite imagery is currently not possible and, furthermore, new Core Trainers will have to be trained in the near future due to likely career development and retirement of some existing trainers. All these matters were recently discussed with the Director of KMD. The director agreed with these issues and promised to take actions.

2.2 EAMAC, Niamey

EUMETSAT training policy ensures that anglophone and francophone NMSs in Africa are equally supported. The training needs in satellite meteorology of the francophone NMS community are met via training courses conducted at EAMAC in Niamey, the most recent being in December 2007. This commitment to one two-week satellite meteorology course per year at IMTR and EAMAC will be continued in the future since this is seen as a very cost-effective way to train relatively large groups.

At these courses the use of VisitView and Moodle are now important topics. In March 2008 a RFG workshop was conducted in parallel with the SAWS training centre in Pretoria.

Concerns at EAMAC relate to Internet access, which limits many activities, the maintenance of the training laboratory and the utilisation of real time data needs to be improved. Additionally, like IMTR, new Core Trainers need to be trained due to likely career development and retirement of some existing personnel.

ASECNA (the parent organisation of EAMAC) and EUMETSAT will shortly need to renew their Cooperation Agreement. An important element is the training activities that benefit all the French speaking countries in Africa, including the ASECNA Member States. To this end, a meeting with senior ASECNA management was held at Dakar in July 2008. Discussions focussed on future activities to be carried of over the next five years. It is expected that the new Cooperation Agreement will enter into force by the end of 2008.

2.3 Oman

The new CoE in Oman is developing rapidly. The CoE is a joint activity of the Directorate General of Civil Aviation and Meteorology (DGCAM) and the University of Oman, where the CoE is located. The CoE is managed by the Remote Sensing Faculty of the University, which also brings expertise from other satellite systems and applications such as land surface applications. The current Agreement with Oman on joint training activities will end at the end of 2008. Discussions are underway to open the door for further training activities over the coming years. The CoE in Oman serves the NMS user communities in the Middle East, including Iran. In February 2008 the regular EUMETSAT Satellite Applications Course was conducted and addressed similar subjects as the courses in Niamey and Nairobi. An addition to this course was a mission to Bahrain to introduce the concept of distance learning.

2.4 SAWS

The South African Weather Service (SAWS) in Pretoria has upgraded its status from a regular training institute to the level of CoE in satellite meteorology by conforming to the necessary requirements of WMO and getting the committed support from EUMETSAT. Over recent years EUMETSAT has supported SAWS in the development of satellite meteorology training resources, satellite product applications and presentations at some SAWS regional training courses. There are excellent facilities at the centre and the required level of knowledge to carry out effective training. Since SAWS already cooperates closely with many countries in southern Africa, then given its specific location in the southern hemisphere and the vulnerability of several countries in the region to tropical cyclones, it is expected that this future CoE will contribute significantly to the training activities of the VL in this part of Africa.

Very recently the EUMETSAT Council, through its approval of the new Training Strategy endorsed EUMETSAT support to SAWS in the area of satellite meteorology training and SAWS and WMO has been informed accordingly.

3 EUMETSAT COURSES AND WORKSHOPS

EUMETSAT training courses, workshops and seminars are essential activities that transfer knowledge and help build capacity. Modern teaching methods and new course management systems are now presented to participants on a regular basis. These subjects optimise training efforts and help to mitigate the impact of a gradual reduction of training resources. In 2007 training events were held in Europe, Africa, South America and the Middle East. A further extension in activities has taken place following the launch of Metop-A late in 2006 and Jason-2 in June 2008. EUMETSAT now has to address the satellite meteorology training needs of a more global user community. This, within the context of the VL will, in turn, lead to closer cooperation with other satellite operators and CoE.

4 REGIONAL FOCAL GROUP (RFG) ACTIVITIES

Since the concept of the RFG for regional coordination is very promising, this subject is regularly encouraged at all training courses for the developing countries and the Middle East. In this concept, it is foreseen that all RFG members will communicate effectively and regularly on subjects of common interest that will increase the level of knowledge generally within the region. The concept facilitates real-time weather briefings, the presentation of case studies, the organisation of training sessions and the coordination of other activities such as maintenance, software exchange and training. EUMETSAT has supported the establishment of four RFGs; at EAMAC, IMTR, Oman and Pretoria. Whilst the RFG activities are developing, further support will be provided by EUMETSAT to ensure the best possible deployment and exploitation of this new infrastructure. A major issue remains the access to the Internet at many NMSs. In the meantime, the establishment of the RFGs has been greatly assisted thanks to the generous support of the Eumetcal management team, which has provided its server to host the activities of these RFGs.

In 2007 parallel workshops were organised between the CoEs at IMTR and Oman. The VisitView and Moodle applications were introduced and by the end of the workshops real time VisitView presentations were made to and from each CoE. The objective was to show that the lessons learned at the workshop could be applied immediately thereafter. Parallel activities of the CoEs are an excellent concept as each Centre wishes to demonstrate its capabilities. In these workshops five countries neighbouring each CoE were also invited to participate. It will be recalled that a similar parallel workshop between EAMAC and SAWS took place in March 2008. It is recommended that the VLMG encourages this concept.

The RFG concept, based on Moodle, offers the possibility for chat and the creation of fora addressing specific subjects such as maintenance, software applications and weather discussions. Another possibility is the creation of databases containing interesting regional meteorological phenomena and which might be used for case study development.

5 COURSE MANAGEMENT TOOLS

Traditionally the organisation of courses requires much effort. Letters, faxes, e-mails have to be sent, which require much effort from human resources. A significant effort is also required for the distribution of training material and the conduct of the course itself. In order to ease the management of training activities, Course Management Software, called Moodle, is available to the teaching and learning community free of charge. Additionally, within the framework of Eumetcal, Moodle is made available to the European meteorological community as it is a very effective tool for the organisation of training courses. Eumetcal is one of many organisations with a dedicated Moodle server used for the management of training activities. EUMETSAT, as a Eumetcal sponsor, was also allowed access to the Moodle server. It has now placed a contract with a service provider so that it can operate its own Moodle server (http://training.eumetsat.int) By the end of 2008 all EUMETSAT training facilities will be managed with Moodle.

6 THE VIRTUAL RESOURCE LIBRARY

The original concept of the Virtual Resource Library (VRL) was proposed at the VLMG meeting in Barbados in 2001. At that time it was felt that dedicated servers available for use by the CoEs were the most efficient way to make the huge amount of training material accessible to the teaching community. Over the years this concept was widely accepted and further developed. However, the effort required to effectively manage and maintain the servers and the libraries was underestimated as much of this work needed to be done alongside day-to-day responsibilities. Therefore discussions with COMET are ongoing to investigate whether their newly developed Environmental Satellite Resource Center (ESRC) can be commonly used for the deposition of training and course material.

7 PLANNING FOR A REGIONAL TRAINING EVENT

Much experience was gathered from the very successful High Profile Training Event (HPTE) of the WMO VL event in October 2006. Recommendations were made on how to continue the momentum generated by this type of activity. EUMETSAT felt that a regional event, covering roughly the field of view of its Meteosat satellites would be more appropriate to address the training needs of the users of these regions. Therefore, a “regional” training event (RTE) is planned for spring 2009. The CoEs supported by EUMETSAT will be actively involved in the organisation, preparation and the delivery of the RTE lectures.

It is also foreseen that the EUMeTrain community and some members of Eumetcal will play active roles in the running of this RTE. The event will be Moodle-managed and further details will follow in due course.

8 TRAINING MATERIAL DEVELOPMENT AND DISTRIBUTION

The training effort needed to introduce and demonstrate the applications of satellite data is significant. In parallel, the demand for such training material is large. With the current level of human and financial resources insufficient training material is being developed. However, material development groups are active in Europe and in Africa, but this task can only be carried out on a part time basis, alongside regular daily activities. EUMeTrain and ASMET are examples of groups producing satellite meteorology training resources. EUMeTrain is based on a 5 year programme with yearly agreed production plans. The African ASMET team is currently finalising the 5th ASMET module, with 3 case studies describing African phenomena. A EUMETSAT workshop will be held soon to plan the next steps for ASMET.

The EUMETSAT Trainers produce material which is used at many training events and includes PowerPoint presentations, images of the months, case studies, VisitView lectures and Webcasts.

EUMETSAT uses hard drives for the distribution of training resources. The hard drives are platform independent, transportable, cost effective and not prone to customs importation problems. Since their introduction, it is estimated that EUMETSAT has distributed more than 250 such drives to training course participants, and the distribution of hard drives will be contributed in the future. Currently some 20GBytes of training information is provided on each distributed drive. The distributed material normally includes all the resources needed for the training course, plus reference and other training material considered of more general use to the participants. A new approach under active consideration by EUMETSAT is the distribution of training material through EUMETCast. This would open the possibility to distribute material to a much wider user community. A demonstration of this concept is planned for the 8th EUMETSAT User Forum in Africa, which will take place in Accra, Ghana, 6 – 10 October 2008.

Furthermore by end of September 2008 first demonstrations of training information dissemination via the EUMETCast/GEONETCast system were successfully performed. This will enable the distribution of valuable training material especially into areas with limited Internet availability.

9 CONCLUSION

The last reporting period has been very productive, important milestones being the Council approval of the EUMETSAT Training Strategy and the EUMETSAT 5-year Training Plan 2009-2013. These documents provide a blue print for future training.

The provision of effective training resources that address the exploitation of data and products from new satellite systems such as Metop and Jason-2 requires major effort. The Training Plan includes a continuation of support to the CoEs in Africa and the Middle East, in coordination with other CoE. EUMETSAT is now a global player in satellite meteorology training and significant support is expected from Eumetcal and EUMeTrain, both supported by EUMETSAT. Training material production teams will be encouraged to continue and even enhance their activities and the new CoEs will be invited to contribute to this effort.

RFG are considered to be a very effective means to enhance regional communication and to develop regional training resources. Four RFG have been established and they are now starting their work.

Finally, the Course Management System, Moodle, has been implemented and this will provide a major new training management infrastructure to support all EUMETSAT training activities. In the coming years EUMETSAT will continue to prepare its user communities for the regular use of Moodle through routine training sessions and specialised workshops.